Competition Systems Ltd - UK
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Installation – MGS01 – AA (revision_01, 08/06/2011)

Author – Mick Boasman

NEMESIS - TCS

Nemesis-TCS 'Traction Control System
Installation manual Moto Guzzi - MGS01

UK
Tel – 08707 444 666
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Kit part No.	TCS-MGS01.AA
This application is designed for use with the Moto Guzzi MGS01	

Speed pick up components	Part No	Checked	Qty
Front left fork leg speed bracket - 25mm spacing	CSD1351		1
Spacer - 11mm Dia x 6.5	CS1258		2
M8 x 20 low head zinc disk bolts (Ducati spec) Pt No. 7070 083 20	CSP1034		6
M6 x 40 s/s cap head screw	CSP1025		2
Speed sensor	23813030401		1
M6 x 16 Zinc Hex head cap screw - Speed sensor	CSP1019		1

Traction module components	Part No	Checked	Qty
Traction Control Module	TCM		1
Frame clamp with 20mm dia + screws	CSD1316		1
Bobbin - Dia 10x15, M5 x12mm	CSP1012		3
M5 Serrated FlangeNut	CSP1017		6

Wiring	Part No	Checked	Qty
Coil wiring	CSW1356		1
Inputs / Power wiring	CSW1357		1
CAN / PC	CSW1358		1

Display module components	Part No	Checked	Qty
Display module	TC-Pod		1
Spacer - 11mm Dia x 6.5	CS1258		1
M6 x 40 s/s cap head screw	CSP1025		1
Push button assembly - blue/green TC-Pod	CS972		1
Double sided glue pad (apply to rear of TC-Pod)	CSP1020		1

Miscelaneous components	Part No	Checked	Qty
Cable ties - 200mm x 4mm	CSP1021		10
Printed TCS over view manual			1
Printed TCS MGS01 AA manual			1
Nemesis-TCS stickers	CSP1022		6

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IMPORTANT – To be read by ALL installers and owners

Terms of use

The presence of the Nemesis-TCS does not take away the responsibility of the rider to operate the bike correctly within their own abilities, the track conditions and the laws of physics.

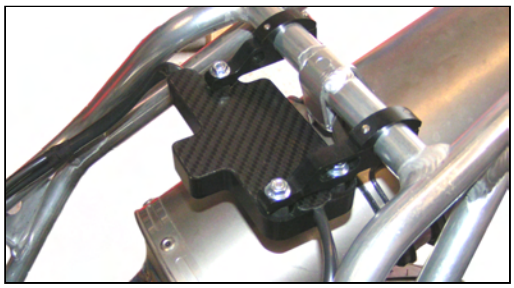
The system is designed to achieve greater on-track performance by the use of power modulation during wheel slip events, but in no way should it be considered possible for the system to recover from every conceivable loss of grip. The onus for safety always rests with the rider to stay within his or her own abilities, and to ensure that the 'on-bike' equipment is programmed, setup correctly, and an appropriate TC level selected for the skill of the rider, the bike and the track conditions.

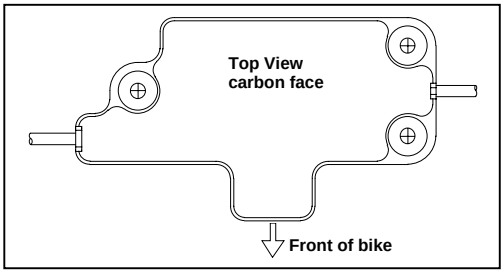
This equipment is intended for racing or track day performance use only and where exhaust emission controls are not applicable.

By installing and using the Nemesis-TCS you automatically indemnify Competition Systems Ltd, our suppliers and our authorised dealers from all first party or third party loss or damages. Normal components warranty is not affected

TC Module Mounting:

- Fit the 3 rubber bobbins inside the apertures in the TC module housing and secure with three of the M5 flange nuts
- Fit the mounting bracket to the rubber bobbins and secure to the rear frame cross member as seen in this image
- When finished the upper carbon face of the TC module should be on the underside and **level with the floor** when the bike is resting on its wheels. Module orientation should be as seen in the diagram
- The wiring should be cable tied to the left and right sub- frame tubes
- **IMPORTANT – DYNO** When running the bike on a dyno or prolonged periods at low speed that produce limited airflow under the seat it is recommended that the TCS module be protected from heat damage. Warranty will not be given for heat soak damage





Note – Ensure the module is free from contact of all other components by at least 4mm

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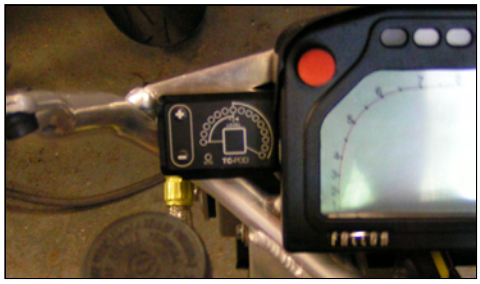
TC-Display pod Fitting:

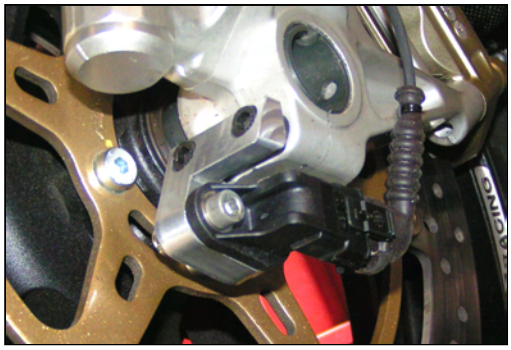


- Mount the display pod to the aluminium area to the left of the dashboard. It is recommended that a strong adhesive or Velcro be used for this purpose.
- Mount the CS972 switch assembly to the upper or lower clutch master cylinder clamp using the longer bolt and spacer provided. Connect the CS972 switch assembly to the TC-Pod via the 4 way connector of the TC-Pod
- Important note – The TC-Pod supplied, as part of the TCS is not the same as the standard TC-Pod. Do not attempt to swap parts

Front Wheel Speed:

Your TCS kit comes with a dedicated bracket, sensor, spacers and different disc cap-head bolts.

- Remove the 6 bolts that secure the right brake disk in place and replace with the 6 new low head cap bolts. Fit to the manufacturer recommended torque and thread lock agent. **Under no circumstances should any alternative bolts be used.**
- Remove the two M6 spindle clamp bolts and push the Dia 11mm x 6.5mm spacers into the apertures. These are designed to be a tight fit and it may be necessary to pull them into place using the bracket and new longer screws we provide. This should be done carefully and evenly to avoid any damage to the threads or bracket.
- When installed correctly the assembly should look as seen here.
- Remove the rubber O ring from the sensor body and fit into the rebate of the sensor bracket.
- Apply a small amount of grease to the sensor body and push the sensor into the bracket. Lock in place using one of the M6x16 cap screws.
- Ensure all screws are secure **This is a safety critical component and could result in wheel locking or TCS failure if it were to come loose.**
- The sensor maximum range is approx 4mm for smaller targets and 6mm for larger targets, therefore no other ferrous objects should be installed anywhere near this sensor



IMPORTANT – Care should be taken when using paddock stands not to damage the wiring of the front speed sensor.

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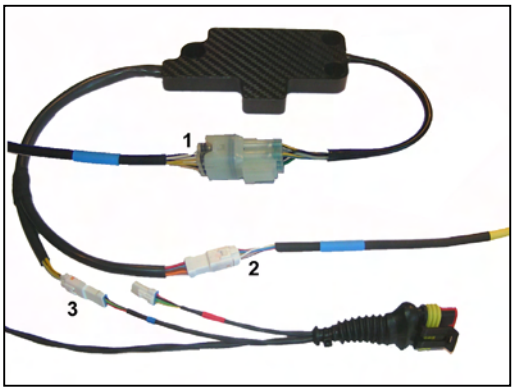


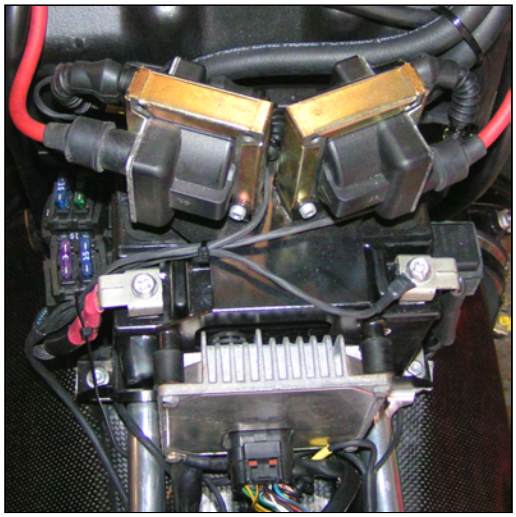
WIRING – IMPORTANT – Do not connect any of the three TCS connectors directly to any standard bike loom connectors (even if they fit). These 3 connectors must only be linked to the blue-banded connectors of the wiring we supply. Damage to the equipment or bike components may occur if this rule is ignored.

Coil Wiring

Locate the wiring loom with yellow identification - CSW1356.

Connect the 6 way connector with the blue banding to connector **1** of the TC Module.

Route the wiring along the left side of the bike and follow the battery positive cable up into the region of the coils.



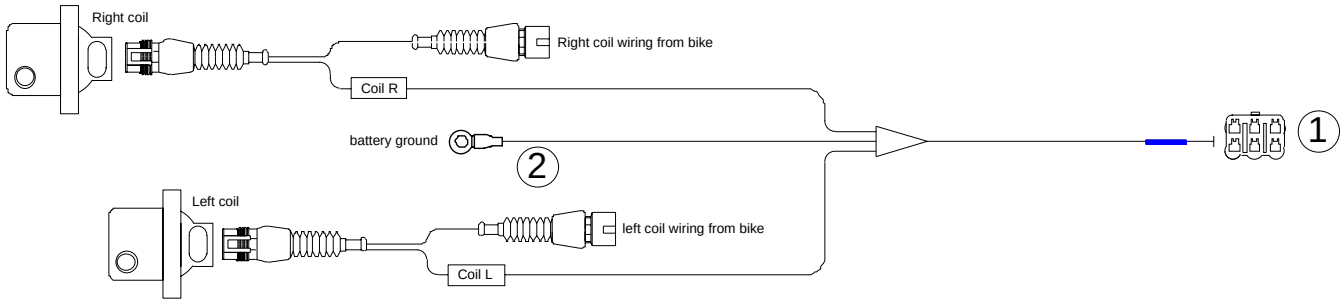
Disconnect the loom wiring from the left coil and use the CSW1356 wiring loom to bridge the gap as shown below.

Disconnect the loom wiring from the right coil and use the CSW1356 wiring loom to bridge the gap as shown below.

The ground connection **2** should be fitted directly to the battery negative.

IMPORTANT – Failure to fit the ground securely can lead to misfire / engine not starting / TCS module damage. This is the main power ground for the coil system.

Should it ever be necessary to isolate all TCS functions and return the bike to normal operation, simply remove these links and re-connect the coils back to their original loom connections.



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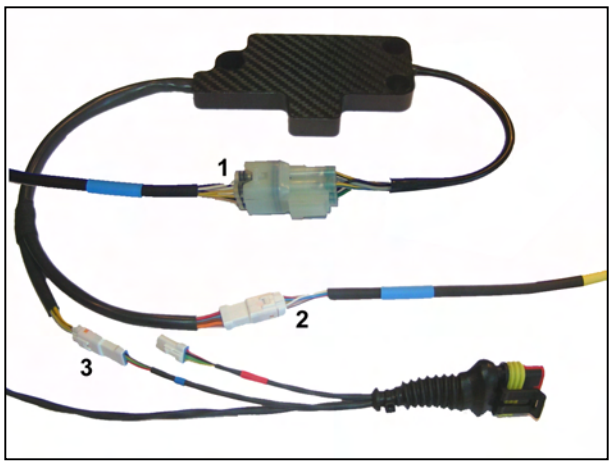
Inputs wiring

Locate the wiring loom with yellow identification - CSW1357.



Connect the 8 way connector with the blue banding to connector **2** of the TC Module.

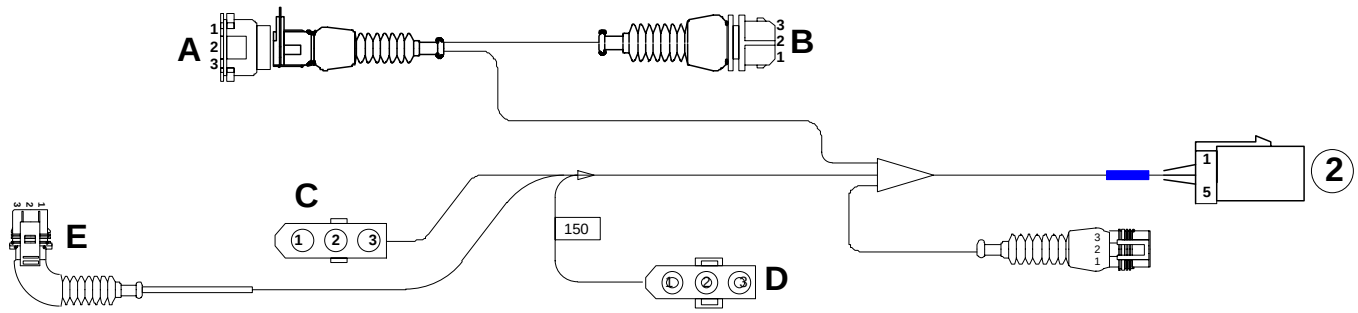
Route the wiring along the right side of the sub frame all the way to the ECU body. At this point branch off the connectors **A** and **B** towards the throttle sensor.

Throttle – Disconnect the 3 way connector from the throttle sensor and bridge the gap using connectors **A** and **B**. Note that the clearance behind the sensor connector is quite tight and it will be necessary to bend over the flexible cover of the wiring.

Now route the remaining wiring under the back of the ECU to the left side of the bike and follow the route of the standard bike wiring towards the front.

Rear speed – Disconnect the 3 way white plastic connector of the rear speed sensor. This is located just above the throttle cables. Bridge the gap using connectors **C** and **D**. Note that this connection provides switched power and sensor grounding as well as the rear speed signal to the TCS system. It is recommended that this connector be protected from water ingress and checked regularly for corrosion.

Front speed - Route the front speed wiring along the left side of the bike following the original wiring route. Use the left brake line as a guide for the cable run and connect to the front speed sensor. This sensor is fundamental for system operation and care must be taken to avoid chaffing or damage during use.



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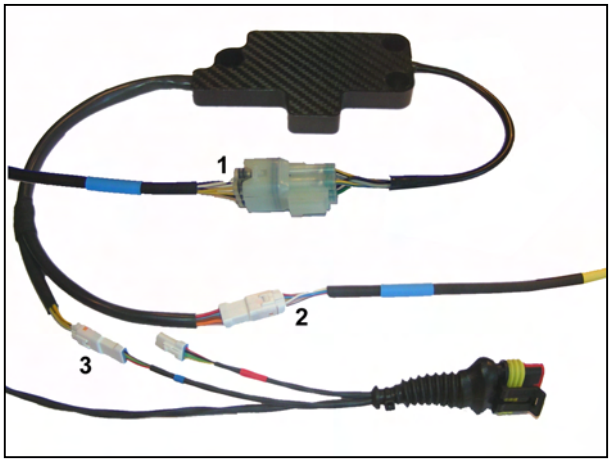


CAN and PC Wiring

Locate the wiring loom with identification - CSW1358.

Locate the 4 way connector with the blue band on the new TCS wiring loom CSW1358 and connect it to connector **3** of the TC Module.

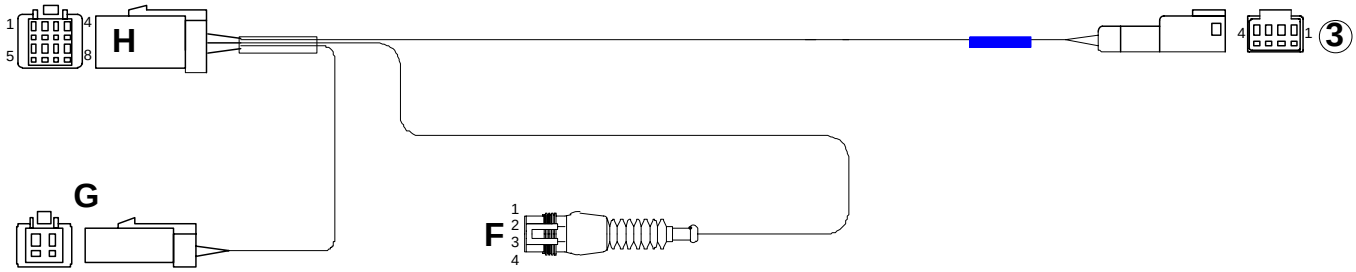
Route the wiring along the right side of the sub frame all the way to the ECU body. Now route the wiring under the back of the ECU to the left side of the bike and follow the route of the standard bike wiring towards the front.

You can now plug the 4 way connector **3** in the drawing below into this 4 way connector.

PC - The 4 way black AMP connector **F** is used as the connection point for the WinTC USB adaptor so can be left in any suitable position near the dashboard.

Display - Route the wiring to the left of the headstock tube and connect the 8 way '**H'** connector to the TC-Pod display.

Pit limiter - Connect the Pit limiter at connector G to a suitable momentary 'normally open' switch if required, or use Part No. CSP1041 which plugs directly in.



PC Setup

Your TCS module should be loaded with the following maps:

120_MGS01_1_Sxx_Rxx.S19

Sxx – Slip map version
Rxx – revision version

Status **Position** offset value – **0.3 to 0.40** – Refer to **WinTC View Data**

Note : The WinTC installation guide can be found in the Nemesis-TCS manual.

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